LIMETREE BAY
REFINING, LLC

May 14, 2021

Mr. Austin F. Callwood, Director
Division of Environmental Protection
Department of Planning & Natural Resources
45 Mars Hill
Frederiksted, V.I. 00840-4474

SUBJECT: **No. 8 Flare H_2S Exceedance – May 7-8, 2021**

Dear Mr. Callwood:

This letter is submitted in compliance with Condition No. 2.4.5.1 of Limetree Bay Title V permit as a follow-up to the email notification to Ms. Verline Marcellin of the Division of Environmental Protection on May 7, 2021 at 11:47 PM regarding the H_2S exceedance event at the No. 8 Flare header.

The Continuous Emissions Monitoring System (CEMS) at the No. 8 Flare recorded H_2S concentrations in excess of 162 ppmv based on a 3-hr rolling average (ref. Title V permit condition 3.2.5.5 & 3.2.5.6) from 10:00 PM on May 7, 2021 to 1:59 AM May 8, 2021.

The following table provides 3-hr H_2S concentrations at the No. 8 Flare header during the exceedance event.

Source		FLARE08
Parameter		H2SPPMD
Unit		(PPM)
05/07/21	20:00	126.5
05/07/21	21:00	125.6
05/07/21	22:00	257.1
05/07/21	23:00	377.0
05/08/21	00:00	373.7
05/08/21	01:00	189.0
05/08/21	02:00	62.8
05/08/21	03:00	67.6

On the evening of May 7th, the Console 4 Distributed Control System (DCS) screen blacked out. Console 4 controls the Distillate Desulfurizer Units (DD6, DD7, & DD9) and No. 3 Hydrobon Unit. The DCS communicates with field control processors (main processor and backup processor). The main control processor failed at approximately 10:01 PM. A few seconds later, the backup control processor was able to resume control. However, the instrument outputs modules that communicates with the control processors had already detected a loss of communication. This caused multiple analog outputs and inputs to disconnect, resulting in the controllers going to manual mode at their fail-safe positions. The control system had pre-configured failure modes which was programmed to close the fuel gas valves at DD6 when communication is lost. As a result, DD6, which was on circulation at the time, tripped and vented to the flare.

Communications were immediately restored between the instruments, control processors, and DCS. Additionally, the pre-configured failure mode that caused the unit to trip was reprogrammed. To prevent reoccurrence, all other pre-configured failure modes throughout the unit were reviewed to identify points that should be reprogrammed.

If you have any questions or need additional information, please contact Maria Aloyo at (340) 692-3781.

Sincerely,

Neil Morgan
VP, Refinery and General Manager
Limetree Bay Refining, LLC

Electronic Copy: Verline Marcellin (DPNR)
Robert Buettner (EPA)
Patrick Foley (EPA)
Harish Patel (EPA)